Flax in Canada: A 2007 Update

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Canada is the Largest Exporter of Flax Seed

Annual Area:

700,000 - 900,000 ha

Annual Seed Production:

600,000 - 1,100,000 tonnes

90% + of Canada's Flax Seed Production is Exported

Most to Belgium, Netherlands, USA & Japan where it is crushed for linseed oil for linoleum, wood finishes, release agents, inks and linseed meal for cattle feed

Production Statistic Estimates

Crop Year	Hectares (kHa)	Seed Price ($/t)	Seed Production (,000 t)	Fiber Produced (tonnes)
2006-2007	579	320-360	670	30-40,000
2005-2006	842	302	1041	30-40,000
2004-2005	842	276	1082	30-40,000
2003-2004	728	500-600	517	30-40,000

2007 Biofibre Survey

- Conducted by Biolin Research for Agriculture and Agri-Food Canada
- Over 90 individuals,companies, or organizations involved in R&D of flax/hemp fiber and shive
- Annual expenditures over $15 million half of which comes from private sector
- Carried out a backcasting exercise and survey

Backcasting

- A tool for analysis that uses the end product as the starting point and moves down the value chain back to the source

Rational

- It is a good method to highlight weaknesses in the value chain

- Easy to illustrate graphically

Example of Backcasting a Car Dash ...

Plastic Composite, Car Dash

Activities Needed - Finishing, Trimming, Molding, Impregnating

Requirements to Carry out Activities - Facilities to mold fiber mats

Missing/Weak Links - Knowledge of what resins, hardeners etc. work with natural fibers
Knowledge of how to deal with variations in natural fibers

Example of Backcasting a Car Dash ...

Fiber Mats

Activities Needed - Fiber storage, fiber opening, blending, carding, lapping, needle punching

Requirement to Carry out Activities - Proper facilities to test, store, blend, etc.
-Trained operators

Missing/Weak Links - Proper facilities, knowledge of how to deal with variations in fiber

Example of Backcasting a Car Dash ...

Fibers

Activities Needed - Storage, extraction, cleaning, baling,testing, transport

Requirement to Carry out Activities - facilities to store & condition straw, extract fiber, bale & transport fiber

Missing/Weak Links - Decortication equipment
- expensive, hammermill technology
- low end applications only
-variation in fiber, existing tests not fast, cheap or consistent

Example of Backcasting a Car Dash ...

Straw	Activities Needed - Transport, extraction, cleaning, baling, testing, transport Requirement to Carry out Activities - Equipment for storage, baling, raking, rolling, etc. Missing/Weak Links - Few primary producers understand specialized agronomic practices to get good fibers - Equipment to improve straw quality and yield is not common or needs to be used in non-traditional ways

“SWOT Analysis”

-consists of a summarization of some of the most important Strengths, Weaknesses, Opportunities and Threats that faces the emerging Canadian biofiber industry

-taken from “*Research and Innovation: The Status of Canadian Biofibers*” prepared for Agriculture and Agrifood Canada, May 2007

“SWOT Analysis”

- Strengths
  - green / sustainable technologies favored by general public/politicians
  - agricultural infrastructure in place
  - dual use crops attractive to farmers
  - Canadian biofibers can be world class in quality
  - increasing demand for high quality natural fiber
  - efficient and adaptable farmers
  - more intense research on flax/hemp fibers than in U.S.
  - new breeding methods offer increased fiber yields

“SWOT Analysis”

- Weaknesses
  - Canada well behind established industries in Europe and Asia
  - Canadian agencies lack funding experience for biofibers
  - serious gap in scale up from lab to full-scale production
  - lack of knowledge by producers of proper agronomic practices for fiber production
  - producers lack specialized machinery

“SWOT Analysis”

- Weaknesses (cont)
  - grading/testing standards for straw, shive and hurd are still being developed
  - hard to provide consistent supply of quality fiber
  - larger quantities of “better managed” linseed straw needed for “higher end” processing plants
  - lack of funding for long-term research as well as scale up from research to commercial
  - value of many potential markets has not been quantified

“SWOT Analysis”

- Opportunities
  - increase revenue for farmers NOT linked to grain prices
  - new rural based environmentally friendly industry
  - reduced greenhouse gases
  - fully recyclable/biodegradable parts
  - reduced dependency on established resources
  - new processing facilities/exports of fiber/shive/hurd

“SWOT Analysis”

- Threats
  - cheap foreign fibers (coir, sisal, jute) are competition for low end composite applications
  - established fiber industries in Europe/Asia overshadow Canadian developing industry
  - delay in development will see increased competition from U.S.
  - weak market demand makes industry very fragile
  - funding for research concentrated on short-term low-return applications

Action Summary

- Saskatchewan Flax Development Commission (SaskFlax) has taken leadership role in “capacity building”
- National Fibres for the Green Economy Network (NAFGEN) - organization of researchers, production and processors, marketers
- Flax Canada 2015, National Biofibres Advisory Board, Crop Fibers Canada, SaskFlax - working together to overcome challenges

Conclusions

- Canada could become large producer of fiber, shive and hurd and products based on them
- A number of challenges need to be overcome that will allow Canada to seize the opportunities that presently exist
- Canadians are already working on overcoming these challenges
- We welcome help and cooperation from people in the audience

Any Questions?

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